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# **A comparison of predialysis eGFR in the US, Canada, France, Australia and the UK between 2005-2015**

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Running head  
Predialysis eGFR between 2005-2015

Evidence from international observational studies and one randomized controlled trial found no survival benefit of "early start "of dialysis, generally defined as predialysis eGFR  $>10$  ml/min/ $1.73\text{m}^2$  (ES)(1). We compared the frequency of ES as reported to dialysis registries for the US, Canada, France, Australia and the UK between 2005- 2015. In 2015, ES was more common in the US, Canada and France (38.8%, 37.2%, 31.8%, respectively) than Australia and the UK (21.7% and 19.1% respectively), It has been suggested that early start rates may be influenced by financial incentives, but this alone does not explain these differences (2,3).

For dialysis patients aged  $\geq 75$  ES was approximately half as frequent in the UK and Australia versus the US and Canada and France and appears to have plateaued for most countries by 2010 (figure1). Predialysis eGFR  $>15$  ml/min/ $1.73\text{m}^2$  for  $\geq 75$  new dialysis starts with comorbidity congestive heart failure in the US, Canada and France was 17.0%, 17.6% and 18.0%, respectively, a finding that deserves further exploration.

The first eGFR related dialysis initiation guidelines appeared in the US in 1997(1). These guidelines might have had the greatest impact on ES in the US. For African Americans ES in 2015 was 26.7% versus 39.4% for whites. Thus, the US may have the highest rate of early start after controlling for race. Since ES has not been shown to provide a comorbidity adjusted survival or quality of life benefit one could argue that all five countries should find ways to decrease the rates of ES. This may be especially important for the 75+ populations where conservative management may be the preferred approach (4)

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**Figure 1 legend:**

Proportion of the population aged  $\geq 75$  years initiating dialysis “early”, defined by starting eGFR  $> 10$  ml/min/1.73m<sup>2</sup> shown in two categories: eGFR 10 - 14.9; and eGFR  $\geq 15$  ml/min/1.73m<sup>2</sup> in 2005, 2010 and 2015

across five countries. The incident average dialysis  $\geq 75$  aged population during this time period was 28,214 for the US, 1,330 for Canada, 3,310 for France, 492 for Australia, and 1,652 for U.K. Missing starting eGFR measurements were removed from all calculations and measured on average between 2005-2015-- 2.9% in the US, 9.3% in Canada, 17.8% in France, 1.9% in Australia, and 51.8% in the U.K. France used data from as many regions as were available for each study period.